

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PHNL040203WO	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/IB2005/050646	International filing date ( <i>day/month/year</i> ) 22 February 2005 (22.02.2005)	Priority date ( <i>day/month/year</i> ) 02 March 2004 (02.03.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input checked="" type="checkbox"/> | Box No. II   | Priority  |
| <input checked="" type="checkbox"/> | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input checked="" type="checkbox"/> | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report 05 September 2006 (05.09.2006)	
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Authorized officer  Cecile Chatel  e-mail: pt13@wipo.int

# PATENT COOPERATION TREATY

REC'D 05 DEC 2005  
WIPO PCT

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220		<b>FOR FURTHER ACTION</b> See paragraph 2 below	
International application No. PCT/IB2005/050646	International filing date (day/month/year) 22.02.2005	Priority date (day/month/year) 02.03.2004	
International Patent Classification (IPC) or both national classification and IPC G02B6/16, G02B6/00, G02B6/20, G02F1/00			
Applicant KONINKLIJKE PHILIPS ELECTRONICS N.V.			

### 1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or Industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for International preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

### 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Verbandt, Y Telephone No. +31 70 340-2939	
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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/IB2005/050646

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
 This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
 a sequence listing  
 table(s) related to the sequence listing
  - b. format of material:  
 in written format  
 in computer readable form
  - c. time of filing/furnishing:  
 contained in the international application as filed.  
 filed together with the international application in computer readable form.  
 furnished subsequently to this Authority for the purposes of search.
3.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1.  The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.
2.  This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE  
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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- the entire international application,
- claims Nos. 1, 5-9

because:

- the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- no international search report has been established for the whole application or for said claims Nos. 1, 5-9
- the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

- has not been furnished
- does not comply with the standard

the computer readable form

- has not been furnished
- does not comply with the standard

- the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- See separate sheet for further details

**WRITTEN OPINION OF THE  
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**Box No. IV Lack of unity of Invention**

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1.  In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
  - paid additional fees.
  - paid additional fees under protest.
  - not paid additional fees.
2.  This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
  - complied with
  - not complied with for the following reasons:

see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
  - all parts.
  - the parts relating to claims Nos. 1-4,10-17

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, Inventive step or  
Industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	2-4
	No: Claims	1,10-17
Inventive step (IS)	Yes: Claims	
	No: Claims	1-4,10-17
Industrial applicability (IA)	Yes: Claims	1-4,10-17
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

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**Re Item IV.**

The separate inventions/groups of inventions are:

claims 1-4,10-17 :Annular display fiber with electrowetting material

claims 1,5,6 : Display fiber with conic sections

claims 1,7-9 : Display fiber bundle

They are not so linked as to form a single general inventive concept (Rule 13.1 PCT) for the following reasons:

Document US5106181 (D1) discloses (reference numerals between brackets refer to this document) a optical display fiber with :

- (a) a plurality of pixel positions (32) along its length,
- (b) a light source (21),
- (c) addressing means (8,10,12,14) for selecting the pixel position where the light is emitted from the fiber.

Hence, claim 1 is not new.

With respect to D1 the special technical features (STF) of the different inventions are as follows :

- Invention 1 (claim 2) : the fiber is an annular fiber with an electro-wetting material inside the fiber which can be addressed electrically.
- Invention 2 (claim 5) : the fiber comprises conical sections distributed along its length and the light source is addressed to modulate the injection angle of the light in the fiber
- Invention 3 (claim 7) : the fiber is a fiber bundle in which the different layers have different lengths and the light source is addressed to modulate its transverse position with respect to the fiber bundle

The STF which are identified here are not identical.

In addition, the following problems are solved by the STF of the different inventions :

- Problem of invention 1 : Light can be emitted along the entire length of the fiber.
- Problem of invention 2 : Simple fiber design without the need for complex addressing electronics

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INTERNATIONAL SEARCHING  
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- Problem of invention 3 : High pixel density and simple addressing of the light source

Mutual comparison of the above problems as seen in the light of the description and of the submitted drawings, shows that the STF solve different problems and do not provide a corresponding technical effect.

Hence, the STF are also not corresponding. This applies for the different combinations of inventions.

Hence, the 3 groups of inventions and any combination between them are not linked by common or corresponding STF. Therefore, they define 3 different inventions which are not linked by a single general inventive concept as required by Rules 13.1 and 13.2 PCT.

**Re Item V.**

- 1 Reference is made to the following document:

D1 : US 5 106 181 A (ROCKWELL, III ET AL) 21 April 1992  
D2: WO 02/069016 A (LIGHTWAVE MICROSYSTEMS CORPORATION) 6  
September 2002  
D3: FR-A-2 669 745 (BECHELANI JEAN-MICHEL; LAUPAU YVES; NAOUM  
JOSEPH) 29 May 1992

**2 INDEPENDENT CLAIMS**

- 2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 11 is not new in the sense of Article 33(2) PCT for the reasons set out under Item IV of this Written Opinion.

**4 DEPENDENT CLAIMS**

The dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT), the reasons being the following :

- Claims 2-4 : The teachings of D2 and D3 are easily combined by the skilled

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person in order to obtain a display fiber in which the meniscus of an electrowetting material is used as light emitting pixel.

- Claims 10-17 : obvious design options for the skilled person.